REMARKS

Applicants appreciate the thorough review of the present application as reflected in the Official Action mailed September 11, 2003. Applicants have amended Claims 1, 11 and 21 to clarify that the request that is distributed is the request that is received over the network. Applicants submit that such an amendment does not alter the scope of the claims and is not a narrowing amendment but is intended merely to make explicit that which was implicit in the claim as originally worded.

The IDS's

Applicants submit herewith an IDS of additional materials for consideration by the Examiner. While it is Applicants' understanding from the Official Action that the previously submitted IDS materials have been considered by the Examiner, Applicants note that the Examiner has crossed through a reference cited on the IDS. Applicants have resubmitted at Tab A, this reference and, while not admitting that the reference is prior art, request that the Examiner consider the reference as prior art for purposes of examination. Applicants request that the Examiner return an initialed copy of the PTO-1449 form submitted with the accompanying IDS.

The Comments on the Specification

Applicants submit that the Summary of the Invention section of the present application conforms to the guidelines as cited in the Official Action. In particular, the Summary of the Invention corresponds to the claimed invention and not the detailed description of the invention. Accordingly, Applicants submit that the Summary of the Invention is "directed to the invention as a whole" as recited in the guidelines. Official Action, p. 3. With regard to advantages of the invention, such are not required in the Summary of the Invention as the guidelines state that the Summary "**may** point out the advantages of the invention or how it solves problems." Official Action, p. 3 (emphasis added). As such, Applicants submit that the Summary of the Invention conforms with M.P.E.P. § 608.01(d).

The Section 112 Rejections

Claims 10, 20 and 30 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Official Action, p. 5. In particular, the Official Action states that the term routing communication protocol stack is indefinite. The term routing communication protocol stack refers to a communication protocol stack that associates a Virtual IP Address and port with other communication protocol stacks in a cluster. Specification, p. 9, lines 8-16. Routing communication protocol stacks are also discussed extensively in the applications referenced at page 9, line 24 through page 10, line 13 of the present application. As such, Applicants submit that the term "routing communication protocol stack" is definite in light of the disclosure of the present application.

With regard to the specific questions in the Official Action, Applicants submit that the term "communication protocol stack" may refer to any communication protocol stack, not merely the OSI Reference Model, as the term is not limited in the present specification to such a particular reference model. Furthermore, the incorporation of the workload management operations of the present invention may be provided in one or more layers of the communication protocol stack that are capable of carrying out the operations described in the present application. Thus, embodiments of the present invention are not and need not be described as incorporated into a particular layer of the communication protocol stack. Finally, the present specification describes, in detail, how a communication protocol stack may be used to define a subset of a plurality of data processing systems. For example, page 21, line 17 through page 27, line 19 describe in detail particular embodiments of the present invention where a workload management function is incorporated in a communication protocol stack and defines a subset of a plurality of data processing systems in a Sysplex cluster.

In light of the above discussion, Applicants submit that the term "routing communication protocol stack" is definite and, therefore, request withdrawal of the present rejection.

The Claims Are Not Anticipated

The Claims Are Patentable Over Gehr

Claims 1-2, 4-6, 8, 11-12, 14-16, 18, 21, 22, 24-26 and 28 stand rejected under 35 U.S.C. § 102(b) as anticipated by United States Patent No. 5,828,847 to Gehr *et al.* (hereinafter "Gehr"). The cited portions of Gehr describe a system where the client selects a server from a hierarchy of servers to which the client can send requests. Thus, for example, Gehr states:

> The above described problems are solved and a technical advance achieved in the field by the method and apparatus for dynamic server switching for maximum availability and load balancing. The preferred embodiment of this dynamic server switching system uses a client communication interface exception handling routine which **enables the client processes to redirect requests to alternate servers** with minimal effort when the designated primary server or communication mode is unavailable. The dynamic server switching system also automatically returns to a normal configuration when the fault has been cleared. **The use of a common client communication interface based fault tolerance scheme significantly reduces the client process development costs and facilitates the portability of the fault tolerance solution architecture**.

Gehr, col. 2, lines 27-41 (emphasis added). Thus, Gehr relates to client side load balancing and/or fault recovery.

In contrast to the client-side system of Gehr, Claim 1 recites as follows:

> 1. A method of distributing workload between a plurality of data processing systems in a cluster of data processing systems, wherein each of the plurality of data processing systems is executing an instance of an application which communicates over a network such that a connection request to the application may be distributed to any one of the plurality of data processing systems, the method comprising:
>
> defining a subset of the plurality of data processing systems which are to receive connection requests to the application having at least one predefined characteristic;
>
> **receiving a request for a connection to the application over the network**;
>
> **determining if the received request has a characteristic corresponding to the at least one predefined characteristic associated with the subset of the plurality of data processing systems**; and
>
> **distributing the received request to one of the subset of the plurality of data processing systems if the received request has a characteristic corresponding to the at least one predefined characteristic**.

Applicants submit that at least the highlighted portions of Claim 1 are not disclosed or suggested by Gehr. Corresponding recitations are found in independent Claims 11 and 21.

As recited in Claim 1, a request for a connection to an application is received over a network. This received connection request is evaluated to determine if it has a characteristic corresponding to the characteristic associated with the subset of processing systems and the received request is distributed based on the evaluation. Thus, the request that is received over the network is also the request that is evaluated and distributed.

In rejecting Claim 1, the Official Action does cites Gehr, col. 2, lines 65-66 as disclosing of suggesting the receipt of a connection request from a network. *See* Official Action, p. 6. However, the cited portion of Gehr does not disclose receiving a request over the network where the received request is evaluated for distribution. Instead, the cited portion of Gehr describes a client selecting a different server-communication method pair if the primary server-communication method is not available. While Gehr does mention redirecting requests, these requests are not requests that are received over a network but is a reference to a client sending a request to a different server. *See* Gehr, col. 2, lines 50-56. Because Gehr is client side load balancing, no selective routing of connection requests that are received over a network is carried out. In the cited portions of Gehr, the connection requests would be routed by the client to the selected destination server as the selection of the server occurs before the connection request is sent on the network. Accordingly, Gehr does not disclose or suggest "determining if the received request has a characteristic corresponding to the at least one predefined characteristic associated with the subset of the plurality of data processing systems" and "distributing the received request to one of the subset of the plurality of data processing systems if the received request has a characteristic corresponding to the at least one predefined characteristic" as recited in Claim 1.

Furthermore, Gehr actually teaches away from the claimed distribution of received connection requests as Gehr provides for client side load balancing. As such, the system of Gehr would not provide client transparent workload balancing as may be provided in certain embodiments of the present invention. Accordingly, Applicants submit that each of the recitations of independent Claims 1, 11 and 21 are neither disclosed nor suggested by Gehr and, therefore, request allowance of Claims 1, 11 and

21. Applicants also submit that the dependent claims are patentable at least per the patentability of their respective base claims.

The Claims Are Patentable Over Choquier

Claims 1, 11 and 21 stand rejected as anticipated under 35 U.S.C. § 102(b) by United States Patent No. 5,951,694 to Choquier *et al.* (hereinafter "Choquier"). Choquier describes a conventional load balancing arrangement where communications are distributed between processors that provide the same service. *See* Choquier, col. 2, lines 1-7. The cited portions of Choquier do not describe "defining a subset of the plurality of data processing systems which are to receive connection requests to the application having at least one predefined characteristic" where "each of the plurality of data processing systems is executing an instance of an application" as recited in Claim 1.

The cited portions of Choquier appear to describe a system where different groups of processors provide different services. For example, Choquier states states:

> In a preferred embodiment, the application servers of the system are interconnected by a local area network, and are arranged into service groups, with **each service group corresponding to a particular service**. Each application server of a service group is preferably a "replicated" version of the other application servers within the service group, meaning that **each runs the same server application** (or server applications) as the others to implement a common service.

Choquier, col. 1, lines 1-7 (emphasis added). The cited portion of Choquier does not describe dividing the service group into subsets. There is no indication that multiple service groups provide the same service nor is there an indication that connection requests could be divided between service groups. Thus, even if the service group is interpreted as disclosing the recitations of the claim that a plurality of processing systems execute the same application, the cited portion of Choquier does not describe a subset of those processing systems as recited in the claims.

The Official Action also cites to col. 2, lines 48-57 of Choquier as disclosing the "determining" and "distributing" recitations of the claims. Official Action, p. 8. In it entirety, the cited portion of Choquier states:

> In accordance with a dynamic load balancing feature of the invention, when a user sends a request to open a service, the Gateway microcomputer that

> receives the request initially identifies the application servers that are within the relevant service group. The Gateway microcomputer then determines the current load of each application server in the service group, and applies a load balancing method to select an application server that is relatively lightly loaded. The service request is then passed to the selected application server for processing.

Choquier, col. 2, lines 48-57. These recitations do not describe a predefined characteristic of a set of data processing systems executing an instance of a same application nor do they describe distribution of requests to a subset of the processors that are executing the same application based on the characteristic. It appears that the cited portion of Choquier describes conventional load balancing where one of a group of servers is selected because of its loading, not because of a characteristic of the request as recited in Claims 1, 11 and 21.

In light of the above discussion, Applicants submit that the cited portions of Choquier does not disclose or suggest each of the recitations of independent Claims 1, 11 and 21.

The Claims Are Not Obvious

Claims 3, 4, 7, 13, 14 and 17 stand rejected as obvious under 35 U.S.C. § 103 in light of Gehr and United States Patent No. 6,374,300 to Masters (hereinafter "Masters"). Claims 9, 19 and 29 stand rejected as obvious under 35 U.S.C. § 103 in light of Gehr, Masters and Official Notice. Claims 10, 20 and 30 stand rejected as obvious under 35 U.S.C. § 103 in light of Gehr, Masters and United States Patent No. 6,430,622 to Aiken, Jr. *et al.* (hereinafter "Aiken"). Applicants submit that these dependent claims are patentable at least per the patentability of their respective base claims as discussed above as the additional cited art fails to provide the teachings missing from Gehr and/or Choquier.

Conclusion

In light of the above discussion, Applicants submit that the present application is in condition for allowance, which action is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call Applicants' representative at (919) 854-1400.

It is not believed that an extension of time and/or additional fee(s), including fees for net addition of claims, are required, beyond those that may otherwise be provided for in documents accompanying this paper. In the event, however, that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned for under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to IBM Deposit Account No. 09-0461.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, on December 11, 2003.

Traci A. Brown
Date of Signature: December 11, 2003